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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald F. Hamilton et al.  
Serial No.: 08/777,958  
Filed : December 24, 1996  
Title : VEHICLE TRUNK WOOFER

Art Unit: 2743  
Examiner: P. Lee, Esq.

Assistant Commissioner for Patents  
Washington, DC 20231

REPLY BRIEF FOR APPELLANT

The Examiner's Answer asserts new grounds of argument, and a response is warranted.

I. THE REFERENCE FAILS TO SUGGEST THE DESIRABILITY OF KEEPING THE WOOFER OUTSIDE THE SPARE TIRE COMPARTMENT.

The Examiner's Answer states:

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newcomb.

Regarding claims 1-4, and 9, Newcomb discloses an audio speaker system for a vehicle in a magazine article. The woofer, mounted in an enclosure, is placed in the trunk, clear of the rear deck, as shown. However, Newcomb fails to explicitly show that the woofer is outside the spare tire compartment. Analyzing claim 1, it merely contains the description of a vehicle and a woofer within the trunk above the trunk floor and outside the spare tire. The claim never specify that the woofer should be in operational condition, i.e. connecting to an amplifier or a radio to generate the sound. As shown in the pictures on p.30, the car disclosed in Newcomb meet the requirement of the car as specified in claim 1. The remaining of the limitation will be met when someone purchases a woofer from a store and ready to bring it home. It would have been obvious to place the woofer in the trunk of the car as disclosed in Newcomb, above the trunk floor and outside the spare tire compartment (since it was already occupied

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with four woofers) so passengers can sit in the passenger compartment. Furthermore, by hiding it in the trunk, the chance of the woofer being stolen is greatly diminished.

The limitation of claim 1 is met even assuming that the woofer is operational when being placed in the trunk. It was considered well known in the art that the location of the woofer is generally not strictly limited to a specific location for a high fidelity stereo sound system because the low frequency sound signal produced by the woofer does not carry any spatial information as required for portraying the stereophonic sound image. Therefore, the woofer can be placed almost anywhere around the listener within a reasonable distance. Newcomb shows the woofer being placed inside the spare tire compartment. As disclosed by Newcomb, the woofers are placed in the spare tire compartment for aesthetic reason (second column of p.30). However, as discussed above, one would have expected that the woofer can be placed anywhere, including the rear trunk corner at the rear of the vehicle, inside the trunk, because altering the location of the woofer inside the trunk **does not produce any acoustically different sound effect**. It would seem to be reasonable for one skilled in the art to place the woofer outside the spare tire compartment, such as at the rear trunk corner, if one wants to keep the spare tire inside that compartment. It would also be considered common sense not to place the woofer in the center of the trunk (for example, right above the spare tire compartment), so one can put luggage, shopping bags or other articles inside the trunk. Thus, as one can see, there is no acoustic engineering skill involved with respect to relocating a woofer within the trunk. Any one with common sense can change the location of the woofer according to his/her need, such as putting the woofer into the spare tire compartment, or at the rear corner above the trunk floor. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system as taught in Newcomb by placing the woofer inside the trunk clear of the rear deck, outside the spare tire compartment, above the trunk floor and at the rear trunk corner, since it has been held to

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be within the general skill of a worker in the art to rearrange the location of the woofer as a matter of design choice. In re Japikse, 86 USPQ 70. Pp.3-5.

The claims positively recite a vehicle loudspeaker system and set forth the structural relationship among the components of the system. The contention that, "The remaining of the limitation will be met when someone purchases a woofer from a store and ready to bring it home," is untenable and emphasizes the failure of the reference to suggest the desirability of making the structural arrangement called for by the claims.

The two pages of the Examiner's Answer referring to how it would be obvious to modify what is disclosed in the reference to meet the terms of the claims fails to identify a single paragraph, sentence, clause, phrase or word in the reference which suggests the desirability of making the proposed modification.

In recently reversing a final rejection on a combination of references affirmed by the Board of Patent Appeals and Interferences, in *In re Dembiczak*, 50 U.S.P.Q. 2d 1614, 1616-17 (Fed. Cir. 1999), the Court said:

Our analysis begins in the text of section 103 quoted above, with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight," see *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 USPQ 90, 98 (Fed. Cir. 1985), overruled on other grounds by *Nobel-pharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 USPQ2d 1097 (Fed. Cir. 1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of

ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See, e.g., *W.L. Gore & Assoc. Inc. v. Garlock, Inc.* 721 F.2d 1540, 1553, 220 UPSQ 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *Id.*

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.* 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) (the Board must identify specifically. . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"), *In re Fitch*, 972 F.2d 1260, 1265, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inv. V. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the proprietary of combination"). See also *Graham*, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat

patentability--the essence of hindsight. See, e.g., *Interconnect Planning Corp. v. Feil*, , 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ) "The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time"). In this case, the Board fell into the hindsight trap.

We submit that here the Examiner has fallen into the hindsight trap.

II. THE REFERENCE DOES NOT DISCLOSE THAT "THE WOOFER MOUNTED INSIDE THE TRUNK AS TAUGHT IN NEWCOMB, NOT CONVENTIONALLY MOUNTED ON THE REAR DECK, THE CLAIMED FREQUENCY RESPONSES ARE INHERENT MET."

The Examiner's Answer states:

Regarding claims 5 and 10, the limitation in these claims are not functionally related to the limitation in claim 1 since the claims never specify that the frequency responses are caused by the woofer being placed in the trunk, not mounted on the rear deck as disclosed in the specification as originally filed. With the woofer mounted inside the trunk as taught in Newcomb, not conventionally mounted on the rear deck, the claimed frequency responses are inherent met. P.5.

Claims 5 and 10 are dependent upon and include all of the limitations of claim 1 and meet the conditions for patentability at least for the reasons set forth in support of the patentability of claim 1. Furthermore, there is no disclosure in the reference of anything resembling the claimed frequency response. The Examiner has not met her burden of establishing inherency.

III. THE REFERENCE DOES NOT DISCLOSE THE REAR DECK BEING FREE OF SPEAKER HOLES OR THE DESIRABILITY OF MODIFYING WHAT IS THERE DISCLOSED TO MEET THE LIMITATIONS OF CLAIM 6.

The Examiner's Answer states:

Regarding claim 6, Newcomb fails to show that the rear deck is free of speaker holes. The speaker holes on the rear deck as discussed on

p.32 of Newcomb are for additional speakers, such as mid-range and tweeters. They are acoustically different from the large-sized woofers being placed in the spare tire compartment. It was considered well known in the art that only one left and one right speakers (covering the mid to high frequency ranges) are required to create a stereophonic sound image (as discussed above, the sound from a woofer does not provide spatial clue). Having additional speakers, including a total of four, six or eight speakers for mid to high frequency signals will create a better sound image, but still a stereophonic sound image. Having more speakers than necessary will cost a lot more than necessary, and also involve a lot more wiring and more needed driving power. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system as disclosed in Newcomb by not to mounting any additional mid-ranges and tweeter at the rear deck in order to save cost, wiring and power, as long as the remaining mid-ranges and the tweeters can provide quality sound imaging. Pp.5-6.

The reference does not disclose the rear deck be free of speaker holes. The disclosure of the speaker holes on the rear deck as discussed on page 32 of the reference hardly suggests the desirability of omitting them. Furthermore, claim 6 is dependent upon and includes all the limitations of claim 1, and the reasoning set forth above in support of the patentability of claim 1 is submitted to support the patentability of claim 6.

#### IV. THE REFERENCE FAILS TO SUGGEST THE DESIRABILITY OF MOUNTING THE WOOFER AT A REAR TRUNK CORNER.

The Examiner's answer states:

Regarding claims 7 and 8, as discussed above and repeated here again, it would have been obvious for the designer to mount the woofer any where inside the trunk, including at a rear trunk corner at the rear of the vehicle since altering the location of the woofer inside the trunk does not produce any

acoustically different sound effect. The limitation that mounting woofer in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with the woofer mounted in the rear deck is inherently met. P. 6.

Claims 7 and 8 are dependent upon and include all the limitations of claim 1, and the reasoning set forth above in support of the patentability of claim 1 is submitted to support the patentability of claim 7 and 8. Furthermore, there is nothing in the reference to suggest the desirability of locating the woofer as disclosed and claimed in the rear corner of the trunk. The Examiner does not and cannot identify any portion of the reference which suggests the desirability of modifying what is there disclosed to meet the terms of claims 7 and 8.

The response to argument, pp. 6-10 fails to even mention the authoritative decisions of the Federal Circuit Court of Appeals upon which we rely, reasoning further supported by the recent *Dembiczak* case quoted extensively above.

#### CONCLUSION

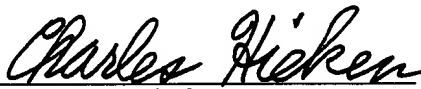
In view of the foregoing remarks and authorities, the authorities and remarks in our brief and the inability of the prior art to anticipate, suggest or make obvious the subject matter as a whole of the invention disclosed and claimed in this application, the decision of the Examiner finally rejecting all the claims should be reversed. Should the Board be of the opinion that one or more of the rejected claims may be allowed in amended form, the Board is respectfully requested to include an explicit statement that a claim may be allowed in such amended form and direct that

appellant shall have the right to amend in conformity with such statement which shall be binding on the Examiner in the absence of new references or grounds of rejection.

The office is respectfully requested to charge any deficiencies or credit any overpayment in connection with this application to Patent Office Deposit Account No. 06-1050, Order No. 02103/211001 of the undersigned attorneys.

Respectfully submitted,

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